

REMARKS

Claim 1 has been amended to incorporate therein the recitation of claim 4. Support for amended Claim 1 can also be found on page 5, lines 20-29 of the specification. Claims 2-5 have been cancelled. Thus, no new matter has been added. Upon entry of this Amendment, which is respectfully requested, Claims 1 and 6-13 will be pending.

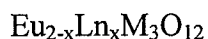
Response to Claim Rejections Under § 102

Claims 1, 3, 5-7, 9-10 and 12-13 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Kano et al in their publication entitled "A Red Phosphor of High Lumen Equivalent, $Y_2W_3O_{12}:Eu^{3+}$." Applicants respectfully traverse.

The present claims relate to a phosphor, represented by the chemical formulae $Eu_{2-x}Ln_xM_yO_{3(y+1)}$, wherein the Eu content satisfies the relationship $0.5 \leq 2-x$ and demonstrates an improved emission intensity.

Kano discloses a phosphor having the formula $Y_2W_3O_{12}:Eu^{3+}$ (10 m/o) formed by firing a mixture of Y_2O_3 , Eu_2O_3 and WO_3 . However, Kano fails to disclose or suggest a phosphor within the scope of the presently claimed formula $Eu_{2-x}Ln_xM_3O_{12}$, wherein $0 \leq x < 1.5$, Ln represents at least one member selected from among Y, La, and Gd, and M represents at least one member selected from W and Mo.

In addition, the following table is a summary of the compositions and the emission intensities of working Examples 21-33 of the present specification, concerning $Eu_{2-x}Ln_xM_3O_{12}$, of the presently claimed invention.



Example	Eu	Ln			M		O	Emission, Intensity
		Y	Gd	La	W	Mo		
21	1.4	0.6			3		12	100
22	2	0			3		12	71
23	1.8	0.2			3		12	91
24	1	1			3		12	96
25	0.6	1.4			3		12	83
26	0.2	1.8			3		12	48
27	1.8		0.2		3		12	89
28	1.4		0.6		3		12	99
29	1		1		3		12	96
30	1.6		1.4		3		12	83
31	0.2		1.8		3		12	53
32	0.6			1.4	3		12	79
33	1.4	0.6				3	12	88.4

The above table demonstrates that the emission intensity of the phosphor increases as the content of Eu in the phosphor increases. Specifically, working Examples 21-25, 27-30 and 32-33, which represent the presently claimed invention, have high Eu contents and thus, high emission intensities. In contrast, comparative Example 25, which corresponds to Kano, has a low Eu content and as a result, a low emission intensity. Thus, Kano fails to render anticipate or render obvious the present claims. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 2 and 4 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. patent No. 7,018,566 to Goutenoire. Applicants respectfully traverse.

The present claims relate to a phosphor, represented by the chemical formulae $\text{Eu}_{2-x}\text{Ln}_x\text{M}_y\text{O}_{3(y+1)}$, wherein the Eu content satisfies the relationship $0.5 \leq 2-x$ and demonstrates an improved emission intensity.

Goutenoire discloses conductive compounds derived from $\text{La}_2\text{Mo}_2\text{O}_9$, and represented by the formula $\text{A}_{2-x}\text{A}'_xB_{2-y}\text{B}'_y\text{O}_{9-z+\delta}\text{X}_z$. Goutenoire further discloses that A can be lanthanum, among others. However, Goutenoire fails to disclose or suggest a phosphor within the scope of the presently claimed formula $\text{Eu}_{2-x}\text{Ln}_x\text{M}_2\text{O}_9$, wherein $0 \leq x < 1.5$, Ln represents at least one member selected from among Y, La, and Gd, and M represents at least one member selected from the group consisting of W and Mo.

In addition, the following table is a summary of the compositions and the emission intensities of working Examples 1-6 and 12-14, concerning $\text{Eu}_{2-x}\text{Ln}_x\text{M}_2\text{O}_9$, of the present invention.

$\text{Eu}_{2-x}\text{Ln}_x\text{M}_2\text{O}_9$,

Example	Eu	Ln			M		O	Emission Intensity
		Y	Gd	La	W	Mo		
1	1.4	0.5			2		9	100
2	2	0			2		9	91.3
3	1.8	0.2			2		9	94.7
4	1	1			2		9	93.8
5	0.6	1.4			2		9	68.3
6	0.2	1.8			2		9	38.6
12	1.4			0.6	2		9	97.2
13	1.4		0.6		2		9	99.1
14	1.4	0.6			0	2	9	87.6

The above table demonstrates that the emission intensity of the phosphor increases as the content of Eu in the phosphor increases. Specifically, working Examples 1-5 and 12-14, which

represent the presently claimed invention, have high Eu contents and thus, high emission intensities. In contrast, comparative Example 6, which is within the scope of Goutenoire's formula, has a low Eu content and as a result, a low emission intensity. Thus, Goutenoire fails to render anticipate or obvious the present claims. Accordingly, withdrawal of the rejection is respectfully requested.

Response to Claim Rejections Under § 103

Claims 8 and 11 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kano as applied to Claim 1 above, and further in view of U.S. Patent No. 6,686,691 to Mueller or U.S. Patent Application Publication No. 2004/0263074 to Baroky. Applicants respectfully traverse.

Claims 8 and 11 are patentable at least by virtue off their direct or indirect dependence from independent Claim 1. Accordingly, withdrawal of the rejection is respectfully requested.

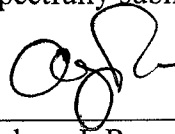
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
Application No.: 10/588,206

Attorney Docket No.: Q80082

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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